

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An exercise device to simulate various types of stepping motions, comprising:

a frame having a pivot axis defined thereon, the frame configured to be supported on a floor;

a first and second foot link, each foot link including a first end and a second end; a foot supporting portion for receiving the user's feet, the foot support portion supported by the first and second foot links;

a coupling system associated with the first end of each foot link for coupling the first end of each foot link to the pivot axis so that the first end of each foot link travels in a closed path relative to the pivot axis;

a guide associated with the frame and operative to engage and direct the second ends of the foot links along preselected reciprocating paths of travel as the first ends of the respective foot links travel along their paths of travel, so that when the exercise device is in use and when the second end of one of the foot links travels forwardly from a rearmost position, the heel portion of the user's foot initially rises at a faster rate than a toe portion thereof, and when the second end of the foot link travels rearwardly from a foremost position, the heel portion of the user's foot initially lowers at a faster rate than the toe portion; and

an elevation system for selectively changing at least one of the elevation and angular orientation of the guide relative to the frame so as to alter the path traveled by the second ends of the first and second links.

2. The exercise device according to Claim 1, wherein the guide is disposed at an inclined relationship with the floor, and the elevation system is operable to alter the inclination of the guide relative to the floor.

3. The exercise device according to Claim 2, wherein the elevation system raises and lowers the guide relative to the frame.

4. The exercise device according to Claim 1, wherein the guide is pivotally supported by the frame, and the elevation system operably engages the guide to raise and lower the guide relative to the frame.

5. The exercise device according to Claim 1, wherein the guide includes at least one rocker arm pivotally supported by the frame and pivotally connected to a second end of the first and second links.

6. The exercise device according to Claim 5, wherein the elevation system operably engages the rocker arm to raise and lower the rocker arm relative to the frame.

7. The exercise device according to Claim 5, wherein the rocker arms are alterable in length

8. The exercise device according to Claim 1, wherein the guide includes rollers mounted on the frame for supporting the second end portions of the foot links.

9. The exercise device according to Claim 1, wherein:

a) the guide includes a support arm coupled to the second end of at least one of the foot links and moveable relative to the second end portion of the foot link;

b) a roller assembly associated with the support arm for rollably supporting the second end of foot link for reciprocal travel; and

c) the elevation system moving the support arm relative to the second end portion of the foot link, thereby changing the elevation of the second end of the foot link relative to the floor.

10. The exercise device according to Claim 9, wherein the support arm is rotatably coupled to the second end portion of the foot link, and the elevation system changing the position of the support arm relative to the foot link about the location that the support arms is coupled to the foot link.

11. An exercise device to simulate various types of stepping motions, comprising:

a frame configured to be supported on a floor;

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16. The exercise device according to Claim 15, further comprising a carriage on which the rollers are mounted.

17. The exercise device according to Claim 15, wherein:

the frame includes a generally upright post; and

the elevation system moves the rollers along the upright post.

18. The exercise device according to Claim 11, wherein the elevation system (raising and lowering the coupling system relative to the ground.)

19. The elevation system according to Claim 18, further comprising a control arm extending between the support arm and the foot link to change the position of the support arm relative to the foot link.

20. The exercise device according to Claim 11, wherein:

(a) the guide system includes a support arm coupled to the second end of at least one of the foot links, said support arm moveable relative to the second end portion of the foot link, and said support arm having portions distal from the connection to the foot link for supporting the second end of the foot link for reciprocal travel; and

(b) the elevation system moving the support arm relative to the second portion of the foot link, thereby changing the elevation of the second end portion of the foot link relative to the floor.

21. The exercise device according to Claim 20, wherein the guide system further comprises a roller assembly associated with the support arm for rollably supporting the second end of the foot link for reciprocal travel.

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